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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,992	01/03/2001	Sanjay Khanna	RSW919990130US1	1791

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EXAMINER
CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
2172	5

DATE MAILED: 06/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _19 March 2003_ .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
  closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-24_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-24_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

　　If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____ .

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　　a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)　　　　　　　　　4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)　　5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .　　6) ☐ Other: .

DETAILED ACTION

This action is responsive to communications: Amendment A, filed on 19 March 2003.

This action is made final.

Claims 1-24 are pending.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1, 4-6, 9-11, 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gorelik et al. ["Gorelik", Pub. No.: US 2002/0004799] in view of Fortier [5,497,487].

As per claim 1, Gorelik discloses a computer program product for serializing data

retrievals and updates, the computer program product embodied on one or more computer-

readable media and comprising:

computer-readable program code means for creating two identical databases, each

representing an initial state for accessing stored data (Gorelik, page 1, [0008], lines 2-4, "a

system maintaining two copies of a database to be accessed by the system's application");

computer-readable program code means for performing searches against a first of the two

databases (Gorelik, Fig. 1, page 2, [0023], lines 1-2, "DB A is the live database and fields

queries from applications");

computer-readable program code means for performing a first update against a second of

the two databases, yielding a revised database (Gorelik, page 2, [0023], lines 2-4, "DB B is the

load database and receives updates form data sources or other update processes or mechanisms);

computer-readable program code means for serializing information on how the first

update affected the second database (Gorelik, page 1, [0008], lines 6-9, "when the loading is

completed, the applications switch to using the newly loaded database (i.e., the load database

becomes the live database and vice versa), while the other database is loaded");

computer-readable program code means for switching the first database and the revised

database, responsive to operation of the computer-readable program code means for performing

the first update, such that the first database becomes the second database and the revised

database becomes the first database (Gorelik, page 1, [0008], lines 6-9, "when the loading is

completed, the applications switch to using the newly loaded database (i.e., the load database

becomes the live database and vice versa), while the other database is loaded");

computer-readable program code means for applying, after operation of the computer

readable program code means for switching, the serialized information to the second database,

yielding a second database that is synchronized with, and structurally identical to, the first

database (Gorelik, page 2, [0029], lines 1-6, "update manager 30 stores the updates in an update

buffer 32. When control manager 18 switches the databases, update manager 30 then applies the

buffered updates to the database that was the live database"); and

computer-readable program code means for performing subsequent searches against the

first database (Gorelik, Fig. 4A – 4E, page 1, [0008] – [0010], "when the loading is completed,

the applications switch to using the newly loaded database").

Gorelik discloses creating two databases instead of two indexes. Fortier discloses a

database management system using two indexes (Fortier, col. 4, line 60 – col. 5, line 23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine Fortier with Gorelik because using index and pointer is more efficient.

Gorelik disclose switching after update (Gorelik, Fig. 4A – 4E), but does not explicitly

disclose switching after each update. However, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to switch after each update because after each

update, one points to newly updated content, the other points to old incorrect content. If not

switching, then query will search the old incorrect content and might return incorrect result.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to switch after each update in order to allow the query to search the newly updated

content and retrieve correct result.

As per claim 4, Gorelik and Fortier teach all the claimed subject matters as discussed in

claim 1, and further disclose the computer-readable program code means for serializing

information further comprises computer-readable program code means for queuing a transaction,

and wherein the computer-readable program code means for applying the serialized information

further comprises computer-readable program code means for applying the queued transaction to

the second index (Gorelik, page 2, [0029]).

As per claim 5, Gorelik and Fortier teach all the claimed subject matters as discussed in

claim 1, and further disclose computer readable program code means for performing a

subsequent update against the second index that results from operation of the computer-readable

program code means for applying the serialized information; and wherein operation of the

computer-readable program code means for performing the subsequent update causes another

operation of the computer-readable program code means for serializing, the computer-readable

program code means for switching, and the computer-readable program code means for applying

(Gorelik, Fig. 4A – 4E, page 2, [0023]).

Claim 6 is rejected on grounds corresponding to the reasons given above for claim 1.

Claim 9 is rejected on grounds corresponding to the reasons given above for claim 4.

Claim 10 is rejected on grounds corresponding to the reasons given above for claim 5.

Claims 11 and 14-15 are rejected on grounds corresponding to the reasons given above

for claims 1 and 4-5.

Claims 16-17 are rejected on grounds corresponding to the reasons given above for claim

1.

3.   Claims 2, 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gorelik et al. ["Gorelik", Pub. No.: US 2002/0004799] in view of Fortier [5,497,487] and further

in view of Bretl et al. ["Bretl", 6,360,219].

As per claim 2, Gorelik and Fortier teach all the claimed subject matters as discussed in

claim 1, except for explicitly disclosing computer-readable program code means for obtaining an

exclusive lock on the second index prior to operation of the computer-readable program code

means for performing the first update; and computer-readable program code means for releasing

the exclusive lock after operation of the computer-readable program code means for applying the

serialized information. Bretl discloses obtaining a lock prior to update, and releasing the lock

after update (Bretl, col. 1, lines 27-45). Therefore, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to combine the methods of Gorelik, Fortier and

Bretl in order to prevent read and write happening at the same time.

Claims 7 and 12 are rejected on grounds corresponding to the reasons given above for

claim 2.

4.   Claims 3, 8, 13 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gorelik et al. ["Gorelik", Pub. No.: US 2002/0004799] in view of Fortier [5,497,487] and further

in view of Housel, III [6,535,869].

Regarding to claim 3, Gorelik and Fortier teach all the claimed subject matters as

discussed in claim 1, except for explicitly disclosing atomic instructions are used to maintain

proper synchronization between the first index and the second index. Housel, III discloses

atomic instructions are used to maintain proper synchronization between the first index and the

second index (Housel, III, col. 2, lines 14-46). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to combine Gorelik, Fortier and

Housel, III in order to keep the data file and its index consistent.

Claims 8 and 13 are rejected on grounds corresponding to the reasons given above for

claim 3.

As per claim 18, Gorelik and Fortier teach all the claimed subject matters as discussed in

claim 17, except for explicitly disclosing the two indexes are B-trees. Housel, III discloses the

two indexes are B-trees (Housel, III, col. 7, lines 10-15). Therefore, it would have been obvious

to one of ordinary skill in the art at the time the invention was made to combine Gorelik, Fortier

and Housel, III in order to improve search time.

As per claim 20, Gorelik and Fortier teach all the claimed subject matters as discussed in

claim 1, except for explicitly disclosing the indexes are implemented as hash tables. Housel, III

discloses the indexes are implemented as hash tables (Housel, III, col. 7, lines 10-15). Therefore,

it would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine Gorelik, Fortier and Housel, III in order to improve search time.

Claims 19, 21 and 23 are rejected on grounds corresponding to the reasons given above

for claim 18.

Claims 22 and 24 are rejected on grounds corresponding to the reasons given above for

claim 20.

Response to Arguments

5.   Applicant's arguments with respect to claims 1-24 have been considered but are moot in

view of the new ground(s) of rejection.

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Inquiry

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chongshan Chen whose telephone number is (703) 305-8319.

The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kim Y Vu can be reached on (703)305-4393. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 746-7239 for regular

communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703)305-3900.

CC

May 29, 2003

JEAN M. CORR:FLUS

PRIMARY EXAMINER